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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,407	12/08/2000	James B. Armstrong	DIVA/115	1885

26291 7590 06/09/2005

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EXAMINER

MIRZA, ADNAN M

ART UNIT	PAPER NUMBER
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2145

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,407

Applicant(s)

ARMSTRONG ET AL.

Examiner

Adnan M. Mirza

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-27 rejected under 35 U.S.C. 103(a) as being unpatentable over Craig (U.S. 5,790,176) and Bolosky et al (5,699,503).

As per claims 1,13,15,21 Craig disclosed Apparatus, comprising: a primary storage module, for storing an initial portion of each of a plurality of titles; a secondary storage module, for storing at least a remaining portion of at least one of said plurality of titles; and a controller (col. 10, lines 28-41 & col. 8, lines 51-54),

However Craig did not disclose in detail for processing user requests and causing said primary storage module to begin providing an output stream including an initial portion of a requested title; said secondary storage module provisioning said primary storage module with a remaining portion of said requested title such that said output stream includes said initial portion and said remaining portion of said requested title.

In the same field of endeavor Bolosky disclosed the preferred embodiment reduces the overall time slot by dividing the storage devices into a primary portion and a secondary portion. The primary portion of the storage device contains the sub-blocks of data. The preferred embodiment

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designates the primary portion as the faster region (typically the outer region) of the storage device and the secondary portion as the slower region (typically the inner region of the storage device. Thus the preferred embodiment takes advantage of the increased data transfer rates on the faster regions of a storage device. That is by using the using storage device segmentation, the majority of the data transferred during a time slot is retrieved from the outer region of the storage device that has a faster data transfer rate than the inner region of the storage device (col. 4, lines 41-55).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated the preferred embodiment reduces the overall time slot by dividing the storage devices into a primary portion and a secondary portion. The primary portion of the storage device contains the sub-blocks of data. The preferred embodiment designates the primary portion as the faster region (typically the outer region) of the storage device and the secondary portion as the slower region (typically the inner region of the storage device. Thus the preferred embodiment takes advantage of the increased data transfer rates on the faster regions of a storage device. That is by using the using storage device segmentation, the majority of the data transferred during a time slot is retrieved from the outer region of the storage device that has a faster data transfer rate than the inner region of the storage device as taught by Bolosky in the method of Craig to improve the streaming of the digital data to subscribers in a more timely manner with concurring an delays.

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3. As per claims 2,17 Craig-Bolosky disclosed wherein said primary storage module comprises a disk drive array and said secondary storage module comprises at least one of a magneto-optical drive and a magnetic tape drive (Craig, col.11, lines 7-22).

4. As per claim 3 Craig-Bolosky disclosed wherein said primary storage module comprises a plurality of server modules, each of said server modules having associated with it a respective disk drive array, each of said server modules being capable of servicing a plurality of users (Bolosky, col. 3 lines 43-47).

5. As per claim 4 Craig-Bolosky disclosed further comprising: a switch, for multiplexing the respective output streams of said server modules to form therefrom a multiplexed output stream (Craig, col. 7, lines 46-56).

6. As per claims 5,20 Craig-Bolosky disclosed wherein each of said server modules has associated with it a respective output buffer capable of storing at least one service period of said respective server module output stream. (Bolosky, col. 4, lines 1-13).

7. As per claim 6 Craig-Bolosky disclosed further comprising: a transport processor, for receiving an output stream from said primary storage module and causing said output stream to be transported to at least one requesting user via a distribution network (Bolosky, col. 2, lines 26-41).

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8. As per claims 7,16,24 Craig-Bolosky disclosed further comprising: a plurality of server modules, each of said server modules being associated a respective disk array, wherein: a server module for storing at least an initial portion of a title operates as a primary storage module with respect to that title, and a server module storing a remaining portion of said title operates as a secondary storage module with respect to that title (Bolosky, col. 4, lines 41-67).

9. As per claims 8,23,26 Craig-Bolosky disclosed wherein a first server module operating as a primary storage module with respect to a requested title is provisioned by a second server module operating as a secondary storage module for said requested title (Bolosky, col. 4, lines 41-67).

10. As per claims 9,18 Craig-Bolosky disclosed further comprising: a switch, coupled to each of said server modules via a buffer, for multiplexing the output streams of each of said server modules to produce there from a multiplexed output stream for subsequent transport (Craig, col. 17, lines 7-24).

11. As per claims 10,14 Craig-Bolosky disclosed further comprising a transport processor, for adapting the multiplexed output stream primary storage switch for transporting requested titles to requesting users via a forward application transport channel (FATC) (Craig, col. 16, lines 28-50).

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12. As per claims 11,19 Craig-Bolosky disclosed wherein each of said respective server module buffers comprises a respective portion of a common memory module, said switch further comprising a direct memory access (DMA) output table for identifying the appropriate portions of the common memory module including data to be retrieved. and provided to said switch output (Bolosky, col. 4, lines 41-67).

13. As per claim 12 Craig-Bolosky disclosed wherein: each of said server modules is capable of servicing a plurality of users, and an over utilized server module is capable of migrating serviced users to an underutilized server module (Bolosky, col. 9, lines 34-51).

14. As per claim 22 Craig-Bolosky disclosed wherein said content stream including said remaining portion of said requested title is stored on a secondary storage device (Bolosky, col. 9, lines 23-30).

15. As per claim 25 Craig-Bolosky disclosed wherein each of said server modules is capable of servicing a plurality of users, said method further comprising: determining a utilization level for each server module; and migrating at least one user from an over utilized server module to a non-over utilized server module (Craig, col. 5, lines 43-53).

16. As per claim 27 Craig-Bolosky disclosed migrating a user receiving said content stream from said primary storage device to said secondary storage device when a user load balancing among storage devices is appropriate (Bolosky, col. 13, lines 23-53).

Response to Arguments

Applicant's arguments filed 11/19/2004 have been fully considered but they are not persuasive.

Response to arguments as follows:

17. Applicant argued that prior art did not disclose, “a primary storage module for storing an initial ^r portion of each of a plurality of titles”.

As to applicant's argument, Craig disclosed, “Allocation of storage in the media Server is based on the ranking of a feature and the output of the trend performing by usage probability processor. Referring to Fig. 4, storage is divided into several components, including DRAM, Magnetic disk, high Speed magnetic tape and Archival magnetic tape. All features are stored on the appropriate media based on the priority ranking of the feature. For example, DRAM storage is used for the highest priority features as determined by the trend processing whereas Archival storage is used for the lowest priority features” (col. 8, lines 27-39). One ordinary skill in the art at the time of the invention knows that Primary storage and Secondary storage is based on the certain criteria or properties. As in Craig disclosed in the above statement that storage is allocated on the basis of the priorities that is interpreted as the storage with high priorities become Primary storage.

18. Applicant argued that prior art did not disclose, “a secondary storage module, for storing at least a remaining portion of at least one of said plurality titles”.

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As to applicant's argument Boloskey disclosed, "the preferred embodiment reduces the overall time slot by dividing the storage devices into a primary portion and a secondary portion. The primary portion of the storage device contains the sub-blocks of data. The preferred embodiment designates the primary portion as the faster region (typically the outer region) of the storage device and the secondary portion as the slower region (typically the inner region of the storage device. Thus the preferred embodiment takes advantage of the increased data transfer rates on the faster regions of a storage device. That is by using the ~~using~~ storage device segmentation, the majority of the data transferred during a time slot is retrieved from the outer region of the storage device that has a faster data transfer rate than the inner region of the storage device" (col. 4, lines 41-55). Again the Boloskey based the primary storage and secondary storage on the certain criteria. One ordinary skill in the art at the time of the invention interpreted the above statement by Bolosky as "a secondary storage module, for storing at least a remaining portion of at least one of said plurality titles".

19. Applicant argued that the combination of Craig and Bolosky fails to teach or suggest the Applicant's invention as a whole.

As to applicant's argument, "In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references

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themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, The It is obvious to combine in order to improve the streaming of the digital data to subscribers in a more timely manner with concurring an delays.

Conclusion

20. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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21. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (571)-272-3885.

22. The examiner can normally be reached on Monday to Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin Wallace can be reached on (571)-272-6159. The fax for this group is (703)-746-7239.

23. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703)-746-7239 (For Status Inquiries, Informal or Draft Communications, please label "PROPOSED" or "DRAFT");

(703)-746-7239 (For Official Communications Intended for entry, please mark "EXPEDITED PROCEDURE"),

(703)-746-7238 (For After Final Communications).

24. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.

Any response to a final action should be mailed to:

BOX AF

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Commissioner of Patents and Trademarks Washington, D.C.20231

Or faxed to:

Hand-delivered responses should be brought to 4th Floor Receptionist, Crystal Park II,
2021 Crystal Drive, Arlington, VA 22202.



Adnan Mirza

Examiner



VALENCIA MARTIN-WALLACE
SUPERVISORY PATENT EXAMINER